

### Activity 3

```
C:\Users\Joshua>docker pull ubuntu:16.04
16.04: Pulling from library/ubuntu
Digest: sha256:9775877f420d453ef790e6832d77630a49b32a92b7bedf330adf4d8669f6600e
Status: Image is up to date for ubuntu:16.04
docker.io/library/ubuntu:16.04

C:\Users\Joshua>docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
delner/ping    latest    b13da5ce8d62   8 minutes ago  170MB
alpine/git     latest    b8f176fa3f0d   3 weeks ago    25.1MB
ubuntu        16.04     9ff95a467e45   3 weeks ago    135MB

C:\Users\Joshua>docker rmi b13
Untagged: delner/ping:latest
Deleted: sha256:b13da5ce8d621b1d7c25f67f2fcb433d0677cc208cbdc2bc729ce84cf3d0c79a
Deleted: sha256:0289ed6250ba7fe46d60ad68cb9b220fbbfda4ca1f817b533e3f62dda57be847

C:\Users\Joshua>touch Dockerfile
'touch' is not recognized as an internal or external command,
operable program or batch file.

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REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
alpine/git     latest    b8f176fa3f0d   3 weeks ago    25.1MB
ubuntu        16.04     9ff95a467e45   3 weeks ago    135MB

C:\Users\Joshua>docker rmi b8f
Untagged: alpine/git:latest
Untagged: alpine/git@sha256:0590372ee83d4d0ff4f08f8d2a98b0ba413d911a2e89c1d3418a1fed9a66337c
Deleted: sha256:b8f176fa3f0d17dff4e22e476539aab14345ac2a8ae494abb44c4f01e471e32
Deleted: sha256:ff01742f86add18fe78dd6f83e13bb7d526b55da47240be572f3ce2cb127579f
Deleted: sha256:522859a67b1d2a8929d74f066ce8a70b0efc558e3ed7a846a3a4ac760a464f3e
Deleted: sha256:b2d5eeea3a22b9b8aa97261957974a6bd65274ebd43e1d81d0a7b8b752b116

C:\Users\Joshua>touch Dockerfile
'touch' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\Joshua>docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
ubuntu        16.04     9ff95a467e45   3 weeks ago    135MB
```

Touch Dockerfile didn't work so I made a file manually.

```
FROM ubuntu:16.04
LABEL author="David Elner"

RUN apt-get update

RUN apt-get install -y iputils-ping
```

```
root@fb4703002ae5:/

C:\Users\Joshua>docker build -t delner/ping .
[*] Building 0.1s (2/2) FINISHED
-> [internal] load build definition from Dockerfile
-> => transferring dockerfile: 2B 0.1s
-> => transferring context: 2B 0.0s
-> CANCELED [internal] load .dockerignore 0.0s
-> => transferring context: 0.0s
failed to solve with frontend dockerfile.v0: failed to read dockerfile: open /var/lib/docker/tmp/buildkit-mount275707737/Dockerfile: no such file or directory

C:\Users\Joshua>docker build -t delner/ping .
[*] Building 0.1s (1/2)
-> [internal] load build definition from Dockerfile 0.1s
-> => transferring dockerfile: 2B 0.0s
failed to solve with frontend dockerfile.v0: failed to read dockerfile: open /var/lib/docker/tmp/buildkit-mount222799498/Dockerfile: no such file or directory

[*] Building 3271.7s (4/6)
-> [internal] load build definition from Dockerfile 0.1s
-> => transferring dockerfile: 31B 0.0s
-> [internal] load .dockerignore 0.1s
-> => transferring context: 2B 0.0s
-> [internal] load metadata for docker.io/library/ubuntu:16.04 0.0s
-> CACHED [1/3] FROM docker.io/library/ubuntu:16.04 0.0s
-> [2/3] RUN apt-get update 3271.4s
-> => # Get:17 http://archive.ubuntu.com/ubuntu xenial-backports/main amd64 Packages [10.9 kB]
-> => # Get:18 http://archive.ubuntu.com/ubuntu xenial-backports/universe amd64 Packages [12.7 kB]
-> => # Get:15 http://archive.ubuntu.com/ubuntu xenial-updates/universe amd64 Packages [1544 kB]
-> => # Get:3 http://security.ubuntu.com/ubuntu xenial-security/main amd64 Packages [2051 kB]
-> => # Ign:15 http://archive.ubuntu.com/ubuntu xenial-updates/universe amd64 Packages
-> => # Get:15 http://archive.ubuntu.com/ubuntu xenial-updates/universe amd64 Packages [1219 kB]
-> => # Get:3 http://security.ubuntu.com/ubuntu xenial-security/main amd64 Packages [2051 kB]
[*] Building 3270.8s (4/6)
-> [internal] load build definition from Dockerfile 0.1s
-> => transferring dockerfile: 31B 0.0s
-> [internal] load .dockerignore 0.1s
-> => transferring context: 2B 0.0s
-> [internal] load metadata for docker.io/library/ubuntu:16.04 0.0s
-> CACHED [1/3] FROM docker.io/library/ubuntu:16.04 0.0s
-> [2/3] RUN apt-get update 3270.4s
-> => # Get:17 http://archive.ubuntu.com/ubuntu xenial-backports/main amd64 Packages [10.9 kB]
-> => # Get:18 http://archive.ubuntu.com/ubuntu xenial-backports/universe amd64 Packages [12.7 kB]
-> => # Get:15 http://archive.ubuntu.com/ubuntu xenial-updates/universe amd64 Packages [1544 kB]
-> => # Get:3 http://security.ubuntu.com/ubuntu xenial-security/main amd64 Packages [2051 kB]
-> => # Ign:15 http://archive.ubuntu.com/ubuntu xenial-updates/universe amd64 Packages
-> => # Get:15 http://archive.ubuntu.com/ubuntu xenial-updates/universe amd64 Packages [1219 kB]
-> => # Get:3 http://security.ubuntu.com/ubuntu xenial-security/main amd64 Packages [2051 kB]
-> => # Get:3 http://security.ubuntu.com/ubuntu xenial-security/main amd64 Packages [2051 kB]
[*] Building 3272.0s (4/6)
-> [internal] load build definition from Dockerfile 0.1s
-> => transferring dockerfile: 31B 0.0s
-> [internal] load .dockerignore 0.1s
-> => transferring context: 2B 0.0s
```

```
root@fb4703002ae5:/

[*] Building 3272.3s (4/6)
-> [internal] load build definition from Dockerfile 0.1s
-> => transferring dockerfile: 31B 0.0s
[*] Building 4661.2s (6/6) FINISHED
-> [internal] load build definition from Dockerfile 0.1s
-> => transferring dockerfile: 31B 0.0s
-> [internal] load .dockerignore 0.1s
-> => transferring context: 2B 0.0s
-> [internal] load metadata for docker.io/library/ubuntu:16.04 0.0s
-> CACHED [1/3] FROM docker.io/library/ubuntu:16.04 0.0s
-> [2/3] RUN apt-get update 4658.7s
-> ERROR [3/3] RUN apt-get install -y iputils-ping 2.1s
-----
> [3/3] RUN apt-get install -y iputils-ping:
#6 0.751 Reading package lists...
#6 1.694 Building dependency tree...
#6 1.854 Reading state information...
#6 1.996 The following additional packages will be installed:
#6 1.996 libffi6 libgmp10 libgnutls-openssl127 libgnutls30 libhogweed4 libidn11
#6 1.997 libnettle6 libp11-kit0 libtasn1-6
#6 1.998 Suggested packages:
#6 1.998 gnutls-bin
#6 1.999 The following NEW packages will be installed:
#6 2.000 iputils-ping libffi6 libgmp10 libgnutls-openssl127 libgnutls30 libhogweed4
#6 2.000 libidn11 libnettle6 libp11-kit0 libtasn1-6
#6 2.043 0 upgraded, 10 newly installed, 0 to remove and 5 not upgraded.
#6 2.048 Need to get 1307 kB of archives.
#6 2.048 After this operation, 3781 kB of additional disk space will be used.
#6 2.048 Err:1 http://archive.ubuntu.com/ubuntu xenial/main amd64 libgmp10 amd64 2:6.1.0+dfsg-2
#6 2.048 Could not resolve 'archive.ubuntu.com'
#6 2.048 Err:2 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libnettle6 amd64 3.2.1-ubuntu0.16.04.2
#6 2.048 Could not resolve 'archive.ubuntu.com'
#6 2.048 Err:3 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libhogweed4 amd64 3.2.1-ubuntu0.16.04.2
#6 2.048 Could not resolve 'archive.ubuntu.com'
#6 2.048 Err:4 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libidn11 amd64 1.32-3ubuntu1.2#6 2.048 Could not resolve 'archive.ubuntu.com'
#6 2.048 Err:5 http://archive.ubuntu.com/ubuntu xenial/main amd64 libffi6 amd64 3.2.1-4
#6 2.048 Could not resolve 'archive.ubuntu.com'
#6 2.048 Err:6 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libp11-kit0 amd64 0.23.2-5-ubuntu16.04.2
#6 2.048 Could not resolve 'archive.ubuntu.com'
#6 2.048 Err:7 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libtasn1-6 amd64 4.7-3ubuntu0.16.04.3
#6 2.048 Could not resolve 'archive.ubuntu.com'
#6 2.048 Err:8 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libgnutls30 amd64 3.4.10-4ubuntu1.8
#6 2.048 Could not resolve 'archive.ubuntu.com'
#6 2.048 Err:9 http://archive.ubuntu.com/ubuntu xenial-updates/main amd64 libgnutls-openssl127 amd64 3.4.10-4ubuntu1.8
#6 2.048 Could not resolve 'archive.ubuntu.com'
#6 2.048 Err:10 http://archive.ubuntu.com/ubuntu xenial/main amd64 iputils-ping amd64 3:20121221-2ubuntu2
#6 2.048 Could not resolve 'archive.ubuntu.com'
#6 2.051 E: Failed to fetch http://archive.ubuntu.com/ubuntu/pool/main/g/gmp/libgmp10_6.1.0+dfsg-2_amd64.deb Could not resolve 'archive.ubuntu.com'
#6 2.051
#6 2.051 E: Failed to fetch http://archive.ubuntu.com/ubuntu/pool/main/n/nettle/libnettle6_3.2.1-ubuntu0.16.04.2_amd64.deb Could not resolve 'archive.ubuntu.com'
```

```
C:\Users\Joshua>docker build -t delner/ping .
[*] Building 129.9s (7/7) FINISHED
-> [internal] load build definition from Dockerfile 0.1s
-> => transferring dockerfile: 11B 0.0s
-> [internal] load .dockerignore 0.1s
-> => transferring context: 2B 0.0s
-> [internal] load metadata for docker.io/library/ubuntu:16.04 0.0s
-> [1/3] FROM docker.io/library/ubuntu:16.04 0.0s
-> CACHED [2/3] RUN apt-get update 0.0s
-> [3/3] RUN apt-get install -y iputils-ping 129.3s
-> exporting to image 0.4s
-> exporting layers 0.1s
-> writing image sha256:839fa46a0207d726c5cd7c041d470a093ce5d052b25706270d9c46329763d80a8 0.0s
-> naming to docker.io/delner/ping 0.0s

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them

C:\Users\Joshua>docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
delner/ping latest 839fa46a0207d726c5cd7c041d470a093ce5d052b25706270d9c46329763d80a8 10 minutes ago 166MB
ubuntu 16.04 9ff95a467e045 3 weeks ago 135MB
```

```

C:\Users\Joshua>docker build -t delner/ping .
[+] Building 1.2s (8/8) FINISHED
=> [internal] load build definition from Dockerfile 0.1s
=> => transferring dockerfile: 168B 0.0s
=> [internal] load .dockerignore 0.1s
=> => transferring context: 2B 0.0s
=> [internal] load metadata for docker.io/library/ubuntu:16.04 0.0s
=> [1/4] FROM docker.io/library/ubuntu:16.04 0.0s
=> CACHED [2/4] RUN apt-get update 0.0s
=> CACHED [3/4] RUN apt-get install -y iputils-ping 0.0s
=> [4/4] RUN apt-get clean 0.7s
=> exporting to image 0.2s
=> => exporting layers 0.1s
=> => writing image sha256:7e716cac6f870bba8b0ebd44aa6edd5ab4991ebadb703bcb9f9e99df4a3bd 0.0s
=> => naming to docker.io/delner/ping 0.0s

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them

C:\Users\Joshua>docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
delner/ping latest 7e716cac6f87 5 seconds ago 166MB
<none> <none> 839fa460207d 13 minutes ago 166MB
ubuntu 16.04 9ff95a467e45 3 weeks ago 135MB

C:\Users\Joshua>docker rim 839fa460207d
docker: 'rim' is not a docker command.
See 'docker --help'

C:\Users\Joshua>docker rm 839fa460207d
Error: No such container: 839fa460207d

C:\Users\Joshua>docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
delner/ping latest 7e716cac6f87 41 seconds ago 166MB
<none> <none> 839fa460207d 14 minutes ago 166MB
ubuntu 16.04 9ff95a467e45 3 weeks ago 135MB

C:\Users\Joshua>docker build -t delner/ping .
[+] Building 0.2s (2/2) FINISHED
=> [internal] load build definition from Dockerfile 0.0s
=> => transferring dockerfile: 277B 0.0s
=> [internal] load .dockerignore 0.1s
=> => transferring context: 2B 0.0s
failed to solve with frontend dockerfile.v0: failed to create LLB definition: dockerfile parse error line 5: unknown instruction: &&RUN

C:\Users\Joshua>docker build -t delner/ping .
[+] Building 1139.8s (5/5) FINISHED
=> [internal] load build definition from Dockerfile 0.1s
=> => transferring dockerfile: 32B 0.0s
=> [internal] load .dockerignore 0.1s
=> => transferring context: 2B 0.0s
=> [internal] load metadata for docker.io/library/ubuntu:16.04 0.0s
=> CACHED [1/2] FROM docker.io/library/ubuntu:16.04 0.0s
=> CANCELED [2/2] RUN apt-get update &&apt-get install -y iputils-ping &&apt-get clean &&c 1139.5s
context canceled

C:\Users\Joshua>docker build -t delner/ping .
[+] Building 12.3s (5/5) FINISHED
=> [internal] load build definition from Dockerfile 0.1s
=> => transferring dockerfile: 32B 0.0s
=> [internal] load .dockerignore 0.1s
=> => transferring context: 2B 0.0s
=> [internal] load metadata for docker.io/library/ubuntu:16.04 0.0s
=> CACHED [1/2] FROM docker.io/library/ubuntu:16.04 0.0s
=> CANCELED [2/2] RUN apt-get update &&apt-get install -y iputils-ping &&apt-get clean &&cd 12.1s
context canceled

C:\Users\Joshua>docker build -t delner/ping .
[+] Building 99.6s (6/6) FINISHED
=> [internal] load build definition from Dockerfile 0.1s
=> => transferring dockerfile: 32B 0.0s
=> [internal] load .dockerignore 0.1s
=> => transferring context: 2B 0.0s
=> [internal] load metadata for docker.io/library/ubuntu:16.04 0.0s
=> CACHED [1/2] FROM docker.io/library/ubuntu:16.04 0.0s
=> [2/2] RUN apt-get update &&apt-get install -y iputils-ping &&apt-get clean &&cd /var/lib/ 99.1s
=> exporting to image 0.2s
=> => exporting layers 0.2s
=> => writing image sha256:510db5b074ac0002c89d22fb290d5ec31b5ef7261c994302008ff36777a5b044 0.0s
=> => naming to docker.io/delner/ping 0.0s

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them

C:\Users\Joshua>docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
delner/ping latest 510db5b074ac About a minute ago 139MB
<none> <none> 7e716cac6f87 2 days ago 166MB
<none> <none> 839fa460207d 2 days ago 166MB
ubuntu 16.04 9ff95a467e45 4 weeks ago 135MB

```

```

C:\Users\Joshua>docker run -it delner/ping
PING google.com (172.217.161.142) 56(84) bytes of data.
64 bytes from 172.217.161.142: icmp_seq=1 ttl=37 time=62.1 ms
64 bytes from 172.217.161.142: icmp_seq=2 ttl=37 time=60.5 ms
64 bytes from 172.217.161.142: icmp_seq=3 ttl=37 time=59.5 ms
64 bytes from 172.217.161.142: icmp_seq=4 ttl=37 time=82.5 ms
64 bytes from 172.217.161.142: icmp_seq=5 ttl=37 time=101 ms

```

Due to slow internet connection, I had to run the code a few times before it works.